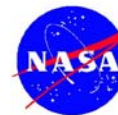




LAND USE CONTROL IMPLEMENTATION PLAN

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION KENNEDY SPACE CENTER BREVARD COUNTY, FLORIDA



FACILITY: Launch Equipment Shop (LES), K6-1247
 CONTAMINANTS: Polynuclear Aromatic Hydrocarbons (PAHs) in Groundwater
 Total Recoverable Petroleum Hydrocarbons (TRPH) in Soil
 CONTROL: Prohibit Groundwater Consumption and Industrial Use Access to Soil.

PURPOSE OF LAND USE CONTROL IMPLEMENTATION PLAN

This Land Use Control Implementation Plan (LUCIP) has been prepared to inform current and potential future users of the Launch Equipment Shop of institutional controls that have been implemented at the site¹. Although there are no current unacceptable risks to human health or the environment associated with the Launch Equipment Shop Site, certain land use controls (LUCs) are necessary to prevent the potential for future risks. Controls will include periodic inspection, condition certification and agency notification.

WHY LAND USE CONTROLS ARE NEEDED

The Site Assessment Report and Addendums have determined that chemicals of concern with concentrations exceeding Florida Department of Environmental Protection (FDEP) and Environmental Protection Agency (EPA) cleanup target levels include polynuclear aromatic hydrocarbons (PAHs) in groundwater and

PAHs and total recoverable petroleum hydrocarbons (TRPHs) in subsurface soils.

SITE DESCRIPTION

The Launch Equipment Shop site assessment began with the removal of a 4,000 gallon underground storage tank and was limited to the northeast corner of the facility. Initial tank closure activities conducted in 1996 confirmed the presence of soil and groundwater contamination. One hundred and seventy-eight tons of petroleum-contaminated soil was removed and properly disposed of during two source removals in 1996 and 2000. Petroleum-contaminated soils were left in place due to underground utilities and being located beneath and immediately adjacent to a trailer and shed located at the southern edge of the excavation.

SITE LOCATION

The Launch Equipment Shop is located on NASA property, southwest of the Vehicle Assembly Building, on the south side of Saturn Causeway (**Figure 1**).

1. This LUCIP summarizes institutional controls regarding the NASA KSC Launch Equipment Shop (K6-1247) Site. For detailed information on the site, consult the Spaceport USA administrative file, which is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

The site is located within Section 18 of Township 22 South, Range 37 East. The areas of the Launch Equipment Shop site covered by this LUCIP are situated on the northeastern portion of the facility (**Figure 2**). The soil use control area is located beneath and immediately adjacent to the north side of a tin shed and trailer (TRI-755), northwest of these structures (**Figure 2**). The groundwater control area is located at the northeast corner of the Launch Equipment Shop (**Figure 2**). Coordinates of the corners of the LUCs are provided in Figure 2 in the State Plane Coordinate System NAD 1983 (metric).

SITE CONTAMINATION AND CONTROL

Groundwater within the LUCIP boundary contains benzo(a)anthracene, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene concentrations exceeding the FDEP's groundwater cleanup target levels. The highest concentrations have been detected in groundwater from well MW-6S.

Subsurface soils at five feet below land surface exceed the industrial and leachability soil cleanup target level for TRPHs and PAHs. Physical constraints precluded the removal of these contaminated soils. Should the trailer, shed, and/or underground utilities be removed the contaminated soils should be removed at

that time. Therefore, LUCs are required and will be implemented to prohibit residential use and exposure to groundwater and maintain the site in an industrial use setting to limit exposure to contaminated subsurface soils.

DECISION DOCUMENT

A Site Assessment Report Addendum dated December 2002 established institutional controls as a component of the remedy for this site. The Site Assessment Report Addendum is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

IMPLEMENTATION

Institutional controls will be implemented by the KSC Environmental Program Office in accordance with a Land Use Control Assurance Plan included in a Memorandum of Agreement (MOA) between NASA, FDEP, and EPA, effective February 23, 2001. Property transfer (if conducted in the future) will be conducted in accordance with Section X of the MOA².

KSC's Environmental Program Office will provide KSC's Master Planning Office with survey coordinates of the LUCs. Restrictions will specify limitations on development and reuse for the area for as

2. By separate MOA effective February 23, 2001, with the EPA and FDEP, KSC, on behalf of NASA, agreed to implement Center-wide, certain periodic site inspection, condition certification and agency notification procedures designed to ensure the maintenance by Center personnel of any site-specific LUCs deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Center's substantial good faith compliance with the procedures called for herein, reasonable assurances would be provided to EPA and FDEP as to the permanency of those remedies which included the use of specific LUCs.

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by NASA KSC, EPA and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent upon the Center's substantial good faith compliance with the specific LUC maintenance commitments reflected herein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.

long as LUCs are necessary to protect human health and the environment.

MONITORING

Quarterly inspections to monitor that institutional controls specified herein are in place and operating will be conducted by KSC's Environmental Program Office. The inspections will verify that no groundwater consumption is occurring, and that exposure to subsurface soils is restricted.

REPORTING

KSC's Environmental Program Office will submit annual reports to EPA and FDEP certifying continued retention of the implemented LUCs.

ENFORCEMENT

KSC's Environmental Program Office will be responsible for stopping any activities at KSC that are not compliant with this LUCIP.

MAINTENANCE

This LUCIP will remain in place until a land use change is implemented and the concerns managed by the LUCIP are mitigated; or there is a discovery, based upon analytical evidence, that scenarios managed by the LUCIP are no longer a concern. Any change in LUC management must be approved by EPA

and FDEP and implemented by modification of NASA's operating permit.

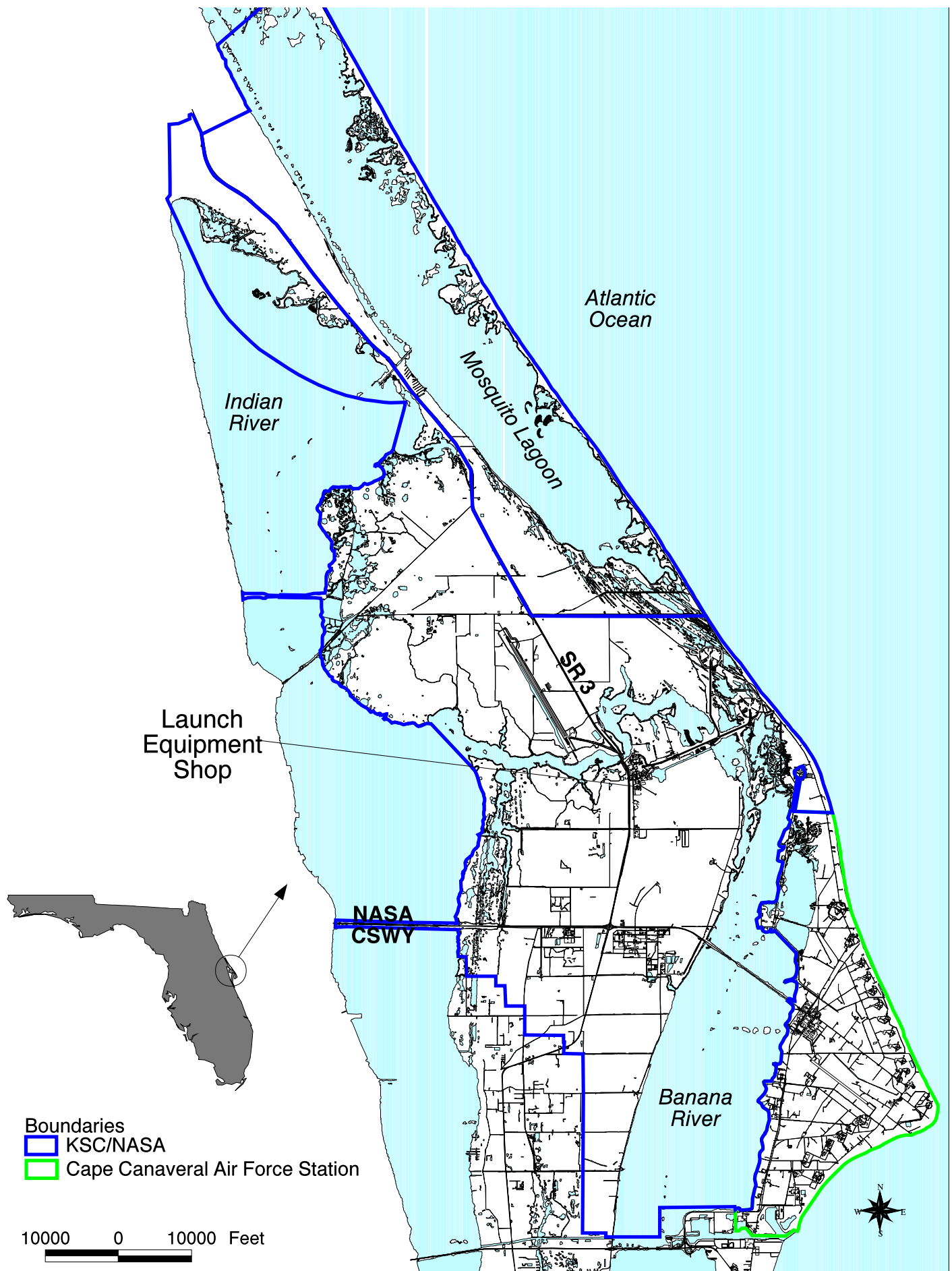


Figure 1. Location of the Launch Equipment Shop on Kennedy Space Center, FL.

Figure 2. Launch Equipment Shop (PRL57) Land Use Control Implementation Plan
Kennedy Space Center, FL

